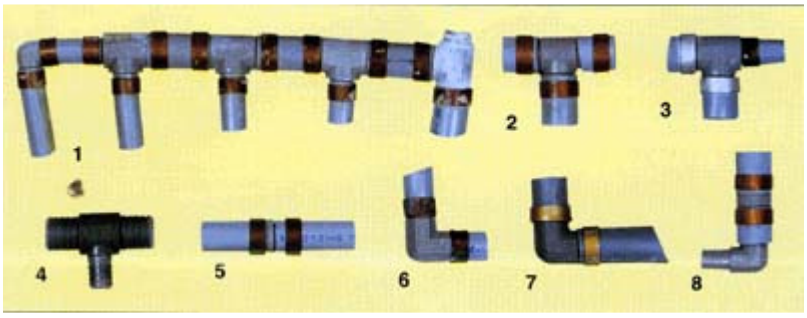
WHAT IS POLYBUTYLENE?

Polybutylene is a form of plastic resin that was used extensively in the manufacture of water supply piping from 1978 until 1995. Due to the low cost of the material and ease of installation, polybutylene piping systems were viewed as "the pipe of the future" and were used as a substitute for traditional copper piping. It is most commonly found in the "Sun Belt" where residential construction was heavy through the 1980's and early-to-mid 90's, but it is also very common in the Mid Atlantic and Northwest Pacific states.



These are typically gray or white in color with a dull finish. Most are shown with pipe attached. Figure (4) is a new fitting.

The piping systems were used for underground water mains and as interior water distribution piping. Industry experts believe it was installed in at least 6 million homes, and some experts indicate it may have been used in as many as 10 million homes. Most probably, the piping was installed in about one in every four or five homes built during the years in which the pipe was manufactured.

How to Tell If You Have Poly
Exterior - Polybutylene underground water mains are usually blue, but may be gray or black (do not confuse black poly with polyethelene pipe). It is usually 1/2" or 1" in diameter, and it may be found entering your home through the basement wall or floor, concrete slab or coming up through your crawlspace; frequently it enters the home near the water heater. Your main shutoff valve is attached to the end of the water main. Also, you should check at the water meter that is located at the street, near the city water main. It is wise to check at both ends of the pipe because we have found cases where copper pipe enters the home, and poly pipe is at the water meter. Obviously, both pipes were used and connected somewhere underground.

Interior - Polybutylene used inside your home can be found near the water heater, running across the ceiling in unfinished basements, and coming out of the walls to feed sinks and toilets. Warning: In some regions of the country plumbers used copper "stub outs" where the pipe exits a wall to feed a fixture, so seeing copper here does not mean that you do not have poly.

See the photos below of polybutylene pipes and fittings.

Will the Pipes Fail?
While scientific evidence is scarce, it is believed that oxidants in the public water supplies, such as chlorine, react with the polybutylene piping and acetal fittings causing them to scale and flake and become brittle. Micro-fractures result, and the basic structural integrity of the system is reduced.

Thus, the system becomes weak and may fail without warning causing damage to the building structure and personal property. It is believed that other factors may also contribute to the failure of polybutylene systems, such as improper installation, but it is virtually impossible to detect installation problems throughout an entire system.

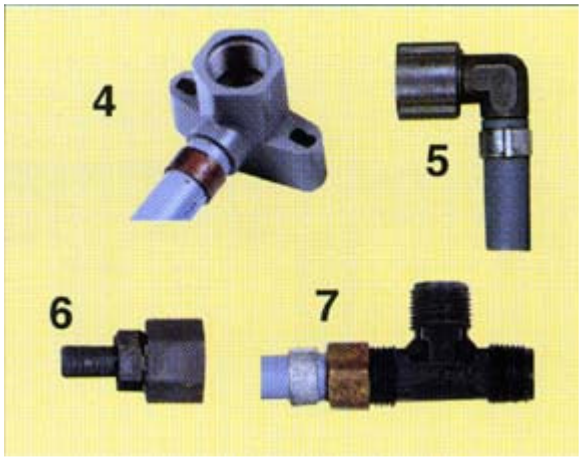
Throughout the 1980's lawsuits were filed complaining of allegedly defective manufacturing and defective installation causing hundreds of millions of dollars in damages. Although the manufacturers have never admitted that poly is defective, they have agreed to fund the Class Action settlement with an initial and minimum amount of $950 million. You'll have to contact the appropriate settlement claim company to find out if you qualify under this settlement.

"A series of reports have suggested that increased use of choloramines accelerates corrosion and degradation of some metals and elastomers common to distribution plumbing and appurtenances.

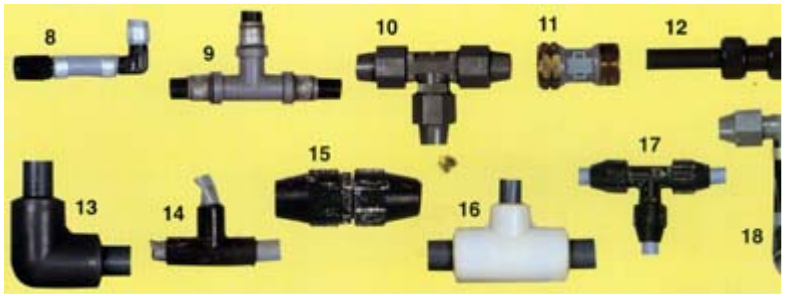
With regard to elastomers, the study showed that with few exceptions, solutions of chloramines (either monochloramine or dichloramine) produced greater material swelling, deeper and more dense surface cracking, a more rapid loss of elasticity, and greater loss of tensile strength than equivalent concentrations of free chlorine."
----Steven Reiber, HDR Engineering, American Water Works Association Research Foundation

Polybutylene Pipes and Insert Fittings

Valves- Typically found under sinks and toilets.

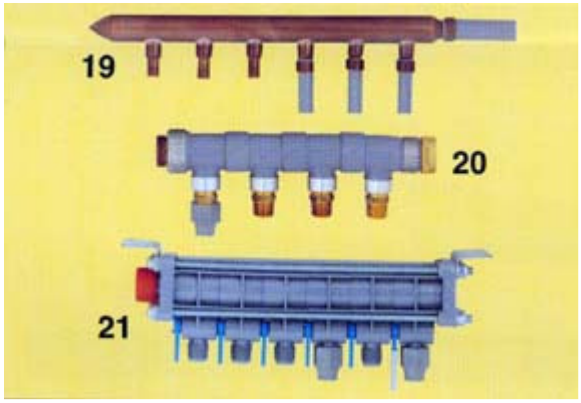


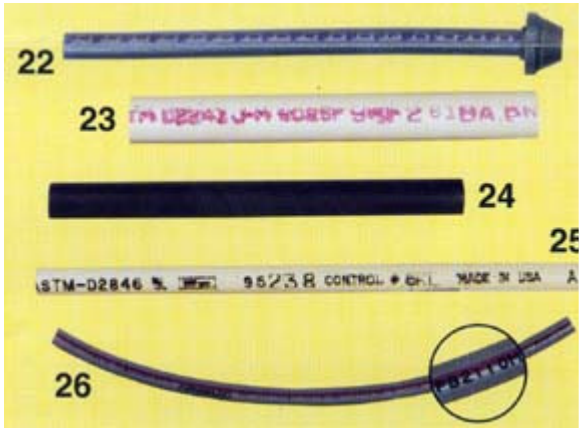
Adapters- Typically used to connect polybutylene pipe to fixtures.



Other fittings.

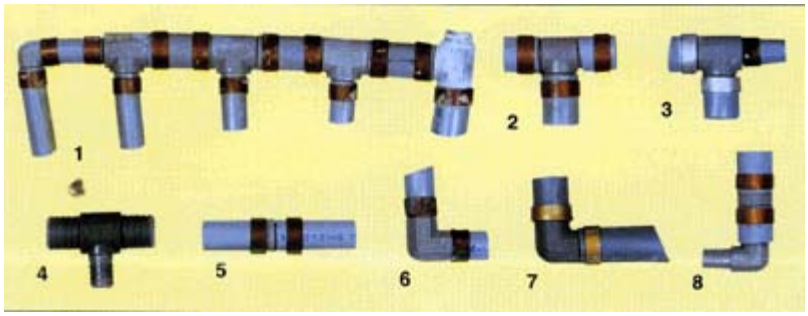
Manufactured Manifolds.





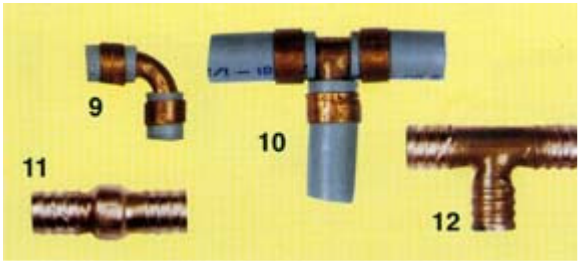
A riser (22) is a pipe running from sink, toilet, or other fixture to a valve. Pipe may be white PVC (23), black polyethylene (24), cream CPVC (25), or gray polybutylene pipe marked "PB 2110 M" (26).

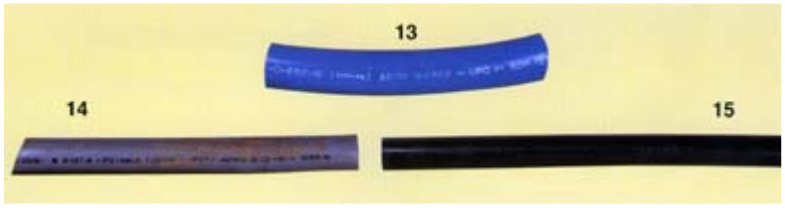
Polybutylene Plumbing System: Polybutylene pipe with plastic or metal fittings
Polybutylene Yard Service Line: Polybutylene pipe utilizing any kind of fitting



These are typically gray or white in color with a dull finish. Most are shown with pipe attached. Figure (4) is a new fitting.

Metal Insert Fittings- These are typically made of copper or brass. New fittings are shown in (11, 12).





Polybutylene Pipe- Yard Service Line is typically blue (13), gray (14), or black (15). Inside Pipe is typically gray (14) or Black (15).

BUYING A HOME WITH POLY! *Facts and Myths!*

Most homes have some cosmetic and functional defects. When buying a home, you must decide what to repair immediately and what to leave for later. Because there is so much misinformation about polybutylene, we have attempted to clarify the issues so you will better understand the impact it will have on your home maintenance and improvement budget, and the possible consequences of delaying replacement.

FACT: A home inspection cannot determine if poly is about to leak simply by looking at the outside of the pipe. Pipes deteriorate from the inside, and they can split under pressure.

FACT: Polybutylene pipes can leak anytime without warning - destroying furniture, family heirlooms, and even causing structural damage.

FACT: Homes with polybutylene plumbing sell for less.

FACT: Homes with polybutylene plumbing take longer to sell.

FACT: Homes with polybutylene plumbing will decrease in value over time compared to those with copper plumbing.

FACT: Class action eligibility for financial assistance begins to expire when the home is 10 years old.

FACT: Insurance premiums could increase or insurance companies could limit coverage in homes with polybutylene leak claims.

FACT: Sellers are often willing to split the cost of a repipe job in an attempt to expedite the sale of a home.

FACT: A copper repipe is about the same cost as a recarpet.

Myth: *Only systems with plastic fittings have problems:*
Not true! Systems with metal fittings fail as well. However, it is true that systems with plastic fittings have more components that fail, and our experience tells us that they do indeed fail at a greater rate than systems with metal fittings or manifold-type systems. That said, both metal fitting systems and manifold systems contain polybutylene piping as well as plastic valves, and both of these components are subject to failure. Basically, the distinction is one of "bad versus worse," not "good versus bad."

Myth: *Replacing poly pipes costs an arm and a leg:*
Actually, replacing poly is about the same cost as recarpeting your home or putting on new roof shingles--providing you use a repipe specialist. A repipe specialist will provide you with the best price combined with the most professional workmanship. To put the cost of a repipe into context (including drywall and paint), it's usually **much less** than installing vinyl windows or basement waterproofing. It is unfortunate that you need to replace the pipes, but it really is similar to other maintenance items--just one you didn't expect so soon!

Myth: *The class action settlement fund will take care of everything if you have a problem:*
All things considered, the class action settlements are very generous; the *Cox v. Shell* settlement was one of the largest consumer settlements in United States history. But, the settlements were a compromise, so neither side got everything they wanted. For example, significant limitations exist on eligibility for free pipe replacement, such as installation date and location of leak(s). (Note: You are strongly encouraged to contact the class facilities directly if you think you have a claim.)

Myth: *Poly problems occur because of poor installation:*
Installation quality may be a factor in poly leaks, but in most cases installation does not appear to be the primary cause. Factors contributing to system leaks include degeneration of piping and/or fittings, water quality, chlorine levels, poor installation and age. Over time, some or all of these factors may contribute to system failure. So even with perfect installation, polybuylene systems may likely fail at some point as a result of other factors.

Myth: *Any good plumber can replace my pipes:*
True, any reputable plumbing company can install water supply piping professionally, but the real questions are, "Can they do the whole job for a fair price and at the least inconvenience to me?" A few general plumbing companies will do the whole job by subcontracting the drywall and paint, but a company that specializes in repipes is your best bet. They have the personnel to give you a quality job, and they will do it more efficiently, with less damage and inconvenience, and most importantly, for less cost.

Myth: *I inspected my own pipes and they are fine:*
It doesn't take a pro to do the "Squeeze Test" (squeeze a pipe or fitting with your fingers: If it falls apart you have a BIG problem). But the "Squeeze Test" doesn't help much because it is very rare that a system becomes so decayed that it gets to this state of advanced degeneration **before** it leaks (maybe 1 in 1,000). The problem is this: Most failures occur in systems that look fine even to the trained eye, so a visual inspection is almost pointless. Yes, you should test your water pressure, but that is about all you can do.

Myth: *The poly in my house has lasted for ten years, so it must be o.k.:*
Not true. In most cases it takes years for polybutylene systems to fail. While it may leak within a few years of installation, the majority of leaks start to occur in the 10-15 year time frame.

Myth: *You will not have a problem selling your home with poly:*
This depends on the awareness of the buyer or prospective buyer. In general, real estate agents tell us that homes with poly sell for less and take longer to sell. Frequently, a home inspector flags the problem, and the pipes are replaced before closing. Unfortunately, we do not know how many prospective buyers simply ignore homes with poly because they recognize it as a potential problem from the start.

Myth: *If the pipes do leak, it's usually minor:* Of the homes that have had a leak, about 80% had some form of structural damage. Frequently, the damage repair entails a sheet of drywall and some paint, or maybe carpet pad replacement, but many leaks have been catastrophic causing thousands of dollars of damage to both the structure and the contents.

Myth: *My insurance will cover the resulting damages if the pipes leak:*
Absolutely--this is not a myth. Water damage of all sorts is typically covered by most policies, and in certain circumstances the class actions may even assist you. But the problem is that your insurer may decide to increase your premium after a claim (or multiple claims), or worse yet, they may not renew your policy. This can happen with any casualty (such as fire or wind damage), but there is no reason to set yourself up for this type of problem when you can avoid it in the first place.

Myth: *"Another" home inspector/contractor said the poly "looked" fine:*
It may "look" fine, but that doesn't mean much because most of the problems with poly systems are not visible. Basically, a home inspector can look for water leaking RIGHT NOW, he can look for evidence of repairs, and he can look for certain installation no-no's (only where pipes are exposed) such as kinks in the piping. That helps a little, but many things contribute to a poly leak, most all of which an inspector cannot see. What matters most is the useful life of the poly in a home, and an inspector cannot predict this for any poly system.

Myth: *The pipe replacement work will practically destroy my home:*
That depends. Pipe replacement is serious work, and if you choose the wrong company to do it, they could make quite a mess. However, a reputable pipe replacement expert knows how to minimize damage to walls and ceilings, so the disruption and the time it takes to complete the job is minimized. The average home should take about five days start to finish, and after that you should see no signs of the work ever being done--that is the real test! – ***ASK FOR REFERENCES ! ! !***

HOW IS IT REPLACED?

The process begins by selectively cutting a limited number of holes in your walls. If you're like everyone else, you probably cringed at that initial thought. But here's the difference between a plumbers meticulous work and a handyman. Prior to making a single cut in your walls, a plumber will map out your home first.

Then the plumber will strategically decide on where to make the least number of cuts to do the job right. If someone tells you they need to start ripping apart entire walls, escort them out of your home. And if someone tells you they can't do the drywall themselves, you know you're in trouble. Most quality plumbing contractors provide you with a turnkey operation from plumbing to drywall to final restoration and computerized matching of your paint.

In an average-sized home, plumbers will make 20-30 discreetly placed cuts. From these entry points they can install brand-new copper plumbing. When making a cut, they carefully mark each panel so it can replace the same panel in the same spot...the same way it came out.

Once they have secured the panels in place, they begin the process of expertly restoring the walls to a condition they started in.